AMENDMENTS TO THE SPECIFICATION

Please make the following amendments to the specification. All amendments are depicted or described in the specification as originally filed; no new matter has been added.

IN THE TITLE:

Please change the title of this application to "FERROMAGNETIC STRUCTURE INCLUDING A FIRST SECTION SEPARATED FROM A FERROMAGNETIC LAYER BY AN ELECTRICALLY CONDUCTIVE NONMAGNETIC SPACER AND A SECOND SECTION ELONGATED RELATIVE TO THE FIRST SECTION IN AT LEAST ONE DIMENSION."

IN THE SPECIFICATION:

Please replace paragraph [0016] with the following amended paragraph:

[0016] FIGS. ~~FIG.~~ 9 and 11 are, respectively, [[is]] a cutaway cross-sectional view and a view of selected layers of a side-shielded CPP sensor similar to that of FIG. 1, but with a ferromagnetic pinning structure with a first section and a second section, the second section extending much further than the first section in the stripe-height direction.

Please replace paragraph [0032] with the following amended paragraph:

[0032] After formation of the above-described layers, a lift-off mask was formed and the region not covered by the mask was removed by a highly anisotropic etch such as an ion beam etch (IBE) or reactive ion etch (RIE), to form a plateau-shaped stack of sensor layers. With the mask still present, insulating layers 178 and 179 were formed, for example of alumina or silicon dioxide, covering the bias layer structure 133 and the sides of the stack. The mask was then removed, along with any insulating material

deposited atop the mask, and the second shield 160 was formed. Another layer of insulating material 162 was then formed and polished flat, after which an inductive write transducer may be formed. Note that the shields 128 and 160 may have a thickness on the order of one micron, and the shield-to-shield spacing, measured between outside surfaces of conductive layers 130 and 158, may be in a range between about two hundred nanometers and forty nanometers.

Please replace paragraph [0038] with the following amended paragraph:

[0038] The free layer 246 adjoins the spacer layer 244, and may be formed, for example of NiFe, CoFe, or other materials or laminates, to a thickness that may be in a range between about one nanometer and fifty nanometers. The free layer 246 may have a track-width dimension and thickness that are similar to those of the first section 252, to encourage magnetostatic coupling between the layers 252 and 246. An electrically conductive nonmagnetic coupling layer 251 may be formed, typically to thickness of about one nanometer, of ruthenium (Ru), chromium (Cr), rhodium (Rh), iridium (Ir), copper (cu), or alloys of these metals to strongly couple the free layer 246 to the bias structure 250. The first layer 252 of the bias structure 250 may be formed of soft magnetic materials such as permalloy or hard magnetic materials such as cobalt-based alloys, may have a thickness that is in a range between about two nanometers and fifty nanometers.

Please replace paragraph [0040] with the following amended paragraph:

[0040] The mask was then removed, along with any insulating material and shield material deposited atop the mask, and the second layer 255 of the ferromagnetic bias structure 250 was formed, adjoining the first layer 252 and separated from the side shields 260 and 262 by the insulating layers 285 and 288. The second layer 255 of the bias structure 250 may have a lower coercivity than that of the pinning structure 235, and may have its magnetic moment set with a magnetic field having a strength that is above the coercivity of the second layer but below the coercivity of the pinning structure.

The second layer 255 may be initialized by a magnetic field to impart a magnetic moment directed substantially opposite to that of the free layer 246, as indicated by arrows <u>245, 280, and</u> 282. An electrically conductive, nonmagnetic layer 258 was formed over layer 255, after which a fourth soft magnetic shield 266 was formed. Note that the shields 228 and 266 may have a thickness on the order of one micron, and the shield-to-shield spacing, measured between outside surfaces of conductive layers 230 and 258, may be in a range between about two hundred nanometers and forty nanometers.

Please replace paragraph [0041] with the following amended paragraph:

[0041] FIG. 8 depicts a side-shielded CPP sensor 220 similar to that described and depicted with reference to FIG. 7, however, the AF layer 233 and hard magnetic pinning layer 235 of FIG. 7 have been replaced with a hard magnetic pinning structure 213 in FIG. 8. The hard magnetic pinning structure 213 includes a first section 210 that is coupled to the pinned layer 242 by subnanometer coupling layer 240, and a second section 211 that extends substantially the same amount as the first section <u>210</u> [[21o]] in the track-width direction, but much further than first section 210 in the stripe-height direction, similar to section 137 that was depicted in FIG. 6. The elongated stripe-height dimension of the second section 211 geometrically stabilizes the magnetization of that section in the stripe-height direction, reducing edge effects in the adjoining first section 210.

Please replace paragraph [0050] with the following amended paragraph:

[0050] The mask was then removed, along with any insulating material and shield material deposited atop the mask, and another mask formed with a stripe-shaped opening centered over the pinned layer 352 and extending in the stripe-height direction. The second layer 355 of the ferromagnetic <u>pinning</u> ~~bias~~ structure 350 was formed through the stripe-shaped opening, adjoining the first layer 352 and separated from the side shields 360 and 362 by the insulating layers 385 and 388. Second layer 355 may

have a lower coercivity than that of the bias structure 313, and may have its magnetic moment, shown by dots 382, set with a magnetic field having a strength that is above the coercivity of the second layer 355 but below the coercivity of the bias structure 313. The elongated stripe-height dimension of the second layer 355, shown in the view of the ferromagnetic pinning structure 350 from the plane of the spacer layer 346 as depicted in Fig. 11, geometrically stabilizes the magnetization of that layer in the stripe-height direction, reducing edge effects in the adjoining first layer 352.